

PATENT COOPERATION TREATY

REC'D 21 JUL 2005

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From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2005/011409

International filing date (day/month/year)
04.04.2005

Priority date (day/month/year)
04.05.2004

International Patent Classification (IPC) or both national classification and IPC
H05B7/09

Applicant
DOW CORNING CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/011409

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/011409

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
Industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	1-14
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: US-A-5 778 021 (INNVAER) 7 July 1998 (1998-07-07)

D2: US-A-4 500 724 (WARD III) 19 February 1985 (1985-02-19)

2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-14 is new in the sense of Article 33(2) PCT, and because the subject-matter of claims 1-14 does not involve an inventive step in the sense of Article 33(3) PCT.

3. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

A container for the formation of self-baking electrodes for use in electric reduction furnaces comprising (Col. 4, lines 59-61):

a cylindrical casing (Col. 4, lines 62, 63);

within the cylindrical casing are a plurality of ribs attached along the inner surface of the casing lengthwise of the cylindrical casing (Fig. 2, ref. 11)

The subject-matter of claim 1 therefore differs from this known container in that:

at least one of the ribs is made of a material comprising copper.

The technical effect resulting of this feature is that a catalyst is present in the container.

The problem to be solved by the present invention may therefore be regarded as how to catalyse the chemical reaction taking place in this container.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

Copper is already used as catalysts in this type of electrode in document D2, claims 1, 3, fig. 2. It will indeed easy for the man skilled in the art to choose any part of the container, including ribs, to locate this catalyst.

Copper indeed is a high resisting temperature material, with high mechanical resistance and could be used as ribs.

The subject-matter of claim 1 does not therefore involve an inventive step.

4. The same reasoning applies, *mutatis mutandis*, to the subject-matter of the corresponding independent claims 10, 12 which therefore are also considered not inventive.

5. The subject-matter of claims 2-9, 11, 13, 14 is known from the prior art documents cited in the search report or is common knowledge for the man skilled in the art and indeed for:

- (i) Claim 2 (aluminum), see document D1, col. 4, lines 34, 35.
- (ii) Claims 3-6 (holes, screws), see document D1, figs. 3, 4.
- (iii) Claim 7 (electrode paste), see document D1, claim 1.
- (iv) Claim 8 (into 2 halves), two halves electrodes are state of the art.
- (v) Claim 9 (copper alloy), see document D2, claim 1.
- (vi) Claim 11 (electrode), see document D1 or D2 as a whole.
- (vii) Claims 13, 14 (silicon, silanes), see document D2, claim 1.

The subject-matter of claims 2-9, 11, 13, 14 does therefore not involve an inventive step.

6. Independent claim 1, 10, 12 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

7. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D1, D2 is not mentioned in the description, nor are these documents identified therein.

8. A document reflecting the prior art described on pages 1, 2 is not identified in the description (Rule 5.1(a)(ii) PCT).

9. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

10. The industrial applicability of the subject-matter of claims 1-14 appears to be evident. Consequently the claims 1-14 fulfill the requirements of Article 33(4) PCT.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/011409

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	1-14
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Industrial applicability (IA)	Yes: Claims	1-14
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2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
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4. The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 10, 12 which therefore are also considered not inventive.

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- (v) Claim 9 (copper alloy), see document D2, claim 1.
- (vi) Claim 11 (electrode), see document D1 or D2 as a whole.
- (vii) Claims 13, 14 (silicon, silanes), see document D2, claim 1.

The subject-matter of claims 2-9, 11, 13, 14 does therefore not involve an inventive step.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/US2005/011409

6. Independent claim 1, 10, 12 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1) being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

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